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CURRENT LITERATURE IN

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Accidents.

Guard against accidents. California cultivator. v.89, no.9.
May 2, 1942. p.235.

Preventing accidents: Effects of war conditions. Electrical
review. v.130, no.3348. January 1942. p.99-100.

Agricultural engineering.

Agricultural engineering research institute. Implement and
machinery review. v.67, no.803. March 1, 1942.
p.980. By arrangement with University of Oxford, Institute
for research in Agricultural engineering, University of Oxford,
will be taken over by Ministry of agriculture, renamed Institute
of Agricultural engineering and carried on by direction of
Ministry of agriculture, who will entrust general direction of
work to Agricultural machinery development board. Testing of
agricultural implements and machinery will thereupon be done
either at Institute or at out stations run in connection with
it in different parts of country.

Engineering in wartime agriculture. By Arnold P. Yerkes.
Agricultural engineering. v.23, no.4. April 1942.
p.117-119, 125. One thing is certain--adjustment of labor
between farm and industry is absolutely imperative. Adjustment
can be ordered which would result in untold civilian hardship
and might jeopardize our war effort and even outcome of war
itself. On other hand, an "engineered" adjustment is possible
whereby all labor is used most advantageously.

How the war has influenced agricultural engineering inventiveness.
By S. T. Kadoley. Implement and machinery review. v.67,
no.801. January 1, 1942. p.787-788. Table shows
annual numbers of patents granted relating to agricultural
implements and machines.

Agriculture.

Adjustment of population to rural resources in Missouri. By
C. E. Lively. Journal of land & public utility economics.
v.18, no.1. February 1942. p.67-76.

Agriculture (Cont'd.).

- Bulldozers and grade A milk. By A. T. Semple. Soil conservation. v.7, no.9. March 1942. p.215-218. It is increasingly apparent that grassland farming is especially well adapted to New England and North Atlantic States because of limited acreages of land suitable for cultivation and huge market for fresh milk.
- Changes in Indiana seed law. By James H. Purcell. Purdue agriculturist. v.36, no.4. January 1942. p.6-7, 20, 22.
- Crop yields and weather. By Louis H. Bean. Washington, D.C., Govt. print. off., 1942. 131p. U.S. Dept. of agriculture. Miscellaneous publication no.471.
- Farm land values and the war. Washington, D.C., U.S. Dept. of agriculture, 1942. 7p.
- Handy feeding. Capper's farmer. v.53, no.2. February 1942. p.7. Mechanization of harvest, storage and distribution of roughage and grain reduce chore time and labor on this dairy farm.
- How much rent can a cow pay? By M. Glen Kirkpatrick. Agricultural engineering. v.22, no.12. December 1941. p.433-434, 436.
- Report of the Kansas state board of agriculture, April 1942. Kansas agricultural convention, 1942. Containing the addresses, papers and discussions at the seventy-first annual meeting of the board, January 14-16, 1942. Topeka, 1942. 112p.
- Revolution in farming. Popular mechanics. v.77, no.6. June 1942. p.92-95, 175.
- Small grains in Minnesota. By W. W. Brookins. St. Paul, Minn., 1941. 20p. Minnesota. Agricultural extension service. Extension bulletin no.228. Illustrations. Discusses Seeding the small grain crop, Harvesting the grain crop, and grain storage.
- War and agricultural research. Agricultural news-letter. v.10, no.2. March-April 1942. p.23-26. One of important by-products of war is change in emphasis and direction of agricultural research. Research, while continuing to remember that fundamentals remain unchanged, must be re-directed and speeded up to help make essential adjustments as simple and practical as possible. In England demands for increased production of certain foods have caused revolutionary change in that country's agriculture.

Agriculture (Cont'd.).

What is expected of agriculture during the war emergency. By
Sherman E. Johnson. Edison electric institute bulletin.
v.10, no.4. April 1942. p.121-123.

Air conditioning.

Effect of attic fan operation on the cooling of a structure. By
W. A. Hinton and A. F. Poor. Heating, piping & air con-
ditioning. v.14, no.4. April 1942. p.244-250.
Cooling effects of attic fan were observed under actual use
conditions. Differential of 2 F between inside and outside
temperature was obtained with 45 air changes per hour.
Identical house without attic fan was found to be as much as
8 F warmer. Air changes exceeding 45 per hour were found to
be uneconomical.

Air raid protection.

Air raid shelter. Architect and engineer. v.149, no.1.
April 1942. p.44-46. New type of air raid shelter that
offers protection from effects of gas and demolition bombs is
being manufactured for use of industrial workers as well as
members of armed forces. Tests by War department demonstrate
that this type of structure is highly resistant to splinters,
blasts, shrapnel, debris from falling buildings and earth
shock. Engineers of Arnco Drainage Products Association, Middle-
town, Ohio, designed shelter to provide protection from bombs
falling not closer than 25 feet. It may be installed in open,
in hillside or in connection with office or factory. Structure
is 50 feet long and seven and one-half feet high, but may be
extended or shortened. Design is flexible and standard metal
sections come in multiple lengths of two and one-half feet.
Each foot of structural length provides seating space for one
person. Four unskilled workmen can erect shelter with simple
tools. No special equipment is required and materials can be
carried in light truck.

Bomb shelters. By Col. George J. B. Fisher. Chemical warfare
bulletin. v.28, no.2. April 1942. p.89-93.

Bombproof and splinterproof construction. Pencil points.
v.23, no.3. March 1942. p.136-137. Pratt Institute
makes series of models for the study of shelter types.

Appraisals.

Buying a farm. By Charles L. Stewart. Appraisal journal.
v.10, no.2. April 1942. p.125-131.

Appraisals (Cont'd.).

Farm appraisals. Journal of the American society of farm managers and rural appraisers. v.5, no.2. October 1941. p.96-101. Report is intended to show (1) human need and increasing demand for sound and dependable farm appraisals, (2) want of more basic appraisal knowledge, and (3) need for men in appraisal profession who are technically trained, have conservative judgment, and are willing to serve in accordance with high ethical standards.

Barns.

Low cost barn designed to permit enlargement after the war. Mississippi valley lumberman. v.73, no.19. May 8, 1942. p.18.

Brooders, electric.

Electric brooding under winter conditions. By E. W. Callenbach and others. State College, Penn., 1941. 28p. Pennsylvania. Agricultural experiment station. Bulletin no.416.

Building materials.

Adhesives industry is modernized. By M. H. Bigelow. Chemical & metallurgical engineering. v.49, no.2. February 1942. p.121-124. Adoption of synthetic resins by adhesives manufacturers has very materially affected industry. Animal and vegetable glues are still made and used, but to them have been added several synthetic resin base products. These new adhesives offer properties not available in earlier glues thus greatly broadening field of application for products of industry.

Materials substitutions. ASTM Bulletin. No. 115. March 1942. p.47-48. Group 1, Materials that are entirely allocated for war and essential industrial purposes. Group 2, Basic materials that are essential to the war industries but whose supply is not so critically limited as materials of Group 1.

Plywood adhesives---Their characteristics and methods of handling. Bakelite review. v.14, no.1. April 1942. p.12-13.

Resin-bonded plywood. Bakelite review. v.14, no.1. April 1942. p.3-4. Significance of resin-bonded plywood as engineering material.

What can we use? Pencil points. v.23, no.5. May, 1942. p.261-264. Part II.

Chimneys.

Observed performance of some experimental chimneys. By Richard S. Dill, Paul R. Achenbach and Jesse T. Duck. Heating, piping & air conditioning. v.14, no.4. April 1942. p.252-259. Two small experimental chimneys arranged to operate at various stack heights were tested at several rates of gas flow and inlet temperature to simulate residential performance. Temperature gradients throughout height of each chimney are reported, together with draft conditions and friction losses.

Cold storage.

Cold storage of shell eggs. Successful handling of a "difficult" commodity. By F. B. Modern refrigeration. v.45, no.529. April 1942. p.63-64.

Compressors.

Proposed A.S.R.E. standard methods of rating and testing refrigerant compressors. Refrigerating engineering. v.43, no.5. May 1942. A.S.R.E. Circular no.23.

Corrosion.

Mechanism of corrosion of water pipes. By Thomas M. Riddick. Water works & sewerage. v.88, no.7. July 1941. p.291-298. Two stages of pipe life. Types of corrosion encountered. Composition and growth of blisters. More important functions of treatment. Tell-tale indications of yellow brass deterioration. Some observations of corrosion of copper tubing. Practical observations vs. theory. Three empirical formulae evolved.

Preventing soil corrosion. By Kirk H. Logan. Record of chemical progress. v.3, no.2. April 1942. p.23-24. Discussion of work at National Bureau of standards.

Condensers.

Evaporative condensers. By C. M. Deverall. Refrigerating engineering. v.43, no.5. May 1942. p.295-300. Part I. Review of condenser systems favors evaporative method.

Proposed A.S.R.E. Standard methods of rating and testing water-cooled refrigerant condensers. Refrigerating engineering. v.43, no.5. May 1942. A.S.R.E. Circular No. 22.

Cost of operation.

Farm costs of operating automobiles and trucks in Marion county.
In fifty-first annual report of the agricultural experiment
station of the Alabama Polytechnic institute, 1940.
Auburn, Alabama, 1940. p.15. Table 10. Farm costs of
automobiles and trucks per farm reporting, Marion county,
Alabama, 1938.

Cotton.

Cotton. In Year book of the Department of agriculture of the
state of South Carolina, 1940-1941. Columbia, S.C., 1942.
p.43-46.

Cotton consumption. In Year book of the Department of agriculture
of the state of South Carolina, 1940-1941. Columbia, S.C.,
1942. p.47-49.

Cotton seed and soy beans offer expansion opportunities. In
Year book of the Department of agriculture, commerce and industries
of the state of South Carolina, 1939-1940. Columbia, S.C.,
1940. p.60-63.

Cotton seed and soy beans offer expansion opportunities. In Year
book of the Department of agriculture of the state of South
Carolina, 1940-1941. Columbia, S.C., 1942. p.40-43.

Pure-seed production of Egyptian-type cotton. By R. H. Peebles.
Washington, D. C., 1942. 20p. U.S. Department of agri-
culture. Circular no.646.

Crops, Drying.

Crushing hay speeds up its drying. In Annual report of the Director,
Agricultural experiment station, University of Wisconsin.
Madison, Wis., 1942. p.21-22. Wisconsin. Agricultural
experiment station. Bulletin no.455.

Hone drying of vegetables. By W. V. Cruess & George Chong.
California cultivator. v.89, no.9. May 2, 1942.
p.219, 230-231.

Drainage.

Drainage of recreation grounds. Public works. v.73, no.5.
May 1942. p.22-24. Why drainage is necessary for golf
courses, tennis courts, baseball and football fields, running
tracks and playgrounds, and how to secure it by proper con-
struction.

Drainage (Cont'd.).

Tile drainage trenches cut and backfilled by machinery. Imple-
ment and machinery review. v.67, no.801. January 1,
1942. p.791-792.

Electric power.

Electric power from small streams. By D. M. E. Merry. New
Zealand Journal of Agriculture. v.63, no.4. October 15,
1941. p.277-281, 283-285. Illustrations. Article
gives full description of how small electric power plant can
be constructed on farm.

Electricity on the farm.

4-H Club rural electrification activity. By Elmer H. Smith and
Walter M. Carleton. Manhattan, Kansas, 1942. 29p.
mimeographed. Kansas state college. Extension service.
Extension M Circular no.40.

Helping the farmer. Electrical review. v.130, no.3352.
February 20, 1942. p.229-232.

Rural electrification: Prospects and policy. Electrical review.
v.130, no.3352. February 20, 1942. p.227-228.

Rural electrification now and after the war. v.130, no.3348.
January 23, 1942. p.101-103.

Erosion control.

Cooperative research in hillculture studies at Floris, Iowa. Soil
Conservation Service, U.S. Department of agriculture and Iowa
agricultural experiment station. Washington, D.C., 1942.
20p. processed. Hillculture is growing of crops on farm
lands too steep for ordinary cultivation. Its aim is hill-land
management to secure improved economic return through using
superior selections of erosion-resistant shrubs, trees, and cover
crops according to sound ecological principles so as to con-
serve soil and water and maintain fertility of land.

Cooperative research in soil and water investigations at Tucson,
Arizona. Soil conservation service, U.S. Department of
agriculture and Arizona agricultural experiment station.
Washington, D. C., 1942. 13p. processed.

Orchard covers and their relation to soil conservation. By R. C.
Collison and E. A. Carleton. Geneva, N.Y., 1942. New
York. Agricultural experiment station. Bulletin no.701.

Shore erosion on the Chesapeake. By John Cotton. Soil Con-
servation. v.7, no.11. May 1942. p.277-279

Erosion control (Cont'd.).

Soil defense in Oklahoma: Bibliography of soil conservation publications. Stillwater, Okla., 1942. 16p. Oklahoma. Agricultural experiment station. Circular no. C-97.

Evaporation.

Measurement of evaporation from land and water surfaces. By C. W. Thornthwaite and Benjamin Holzman. Washington, D.C., 1942. 143p. U.S. Department of agriculture. Technical bulletin no. 817.

Fabrics.

Comprehensive review of industrial fabric uses. Textile recorder. v.59, no.705. December 1941. p.27-28.

Judging fabric quality. By Bess Viemont Morrison. Washington, D.C., 1942. 22p. U.S. Department of agriculture. Farmers' bulletin no. 1831.

Farm buildings.

Farm prefabrication. The Timberman. v.43, no.6. April 1942. p.58, 60. Quickly constructed, inexpensive prefabricated units which will help solve farmers' problems of stock housing and storage.

New federal order affects farm building. By O. C. Lance. The Dakota-Farmer. v.62, no.9. May 9, 1942. p.178-179.

The Second state of rearing. Agricultural gazette of New South Wales. v.52, part 7. July 1, 1941. p.392-394. Two types of weaning pens.

Farm labor.

Camps guide farm labor. By Richard Sasuly. Agricultural Situation. v.26, no.5. May 1942. p.20-21.

Eighty hours--and more--on the farms. Agricultural situation. v.26, no.4. April 1942. p.11-14.

Labor under the farm security program. Monthly labor review. v.53, no.6. December 1941. p.1368-1387.

Manpower and the American farm plant. By John C. Ellickson & John M. Brewster. Land policy review. v.5, no.5. May 1942. p.17-20.

Farm labor (Cont'd.).

Men and machines in the North Dakota harvest. By Robert M. Cullum and others. Washington, D.C., U.S. Department of agriculture, Bureau of agricultural economics, 1942. 62p. mimeographed.

Rise in farm wages, 1941. Monthly labor review. v.53, no.6. December 1941. p.1570-1751.

Farm machinery and equipment.

Agricultural mechanisation. Engineering. v.153, no.3967. January 23, 1942. p.73. Meeting of manufacturers of agricultural machinery convened in London by the Ministry of Agriculture and Fisheries on January 8, in connection with formation of new Joint Standing Committee of Agricultural Engineers Association, on which all sections of agricultural engineering industry are to be represented. Committee will include representatives of Agricultural Engineers Association and of Society of Motor Manufacturers and Traders (Agricultural Tractor Section); Agricultural Machinery Dealers' Association; Scottish Agricultural Machinery Association; National Federation of Ironmongers; Machine Knife and Allied Trades Association; and of firms not previously affiliated to any trade society. Emphasises point that, at present juncture, it is particularly important that there should be single body to represent industry in order to facilitate communication between Ministry and industry on problems which arise from time to time during war period, and to enable industry to increase to maximum production of agricultural machinery and implements, so as to secure success of food production campaign.

Can mechanical injury to barley be prevented? In Farm research in South Dakota. Fifty-fourth annual report July 1, 1942 to June 30, 1941, South Dakota agricultural experiment station. Brookings, S.D., 1942. p.68-69.

Conversion of horse machinery for tractor farming. In Farm research in South Dakota. Fifty-fourth annual report, July 1, 1940 to June 30, 1941, South Dakota agricultural experiment station. Brookings, S.D., 1942. p.66.

Crop of rubber plants speeded by labor-saving methods. Popular mechanics. v.77, no.6. June 1942. p.7. One machine gathers by vacuum enough seed from rows of guayule plants in one acre to plant 10 acres. As seeds are vacuumed, they are stored in bin at rear of machine. Another machine operated by four men prepares holes for transplanting seedlings and covers plants after they are dropped into field by men. Each man can plant 60 seedlings a minute by this process.

Farm machinery and equipment. (Cont'd.).

- Farm equipment quotas revised. Farm machinery and equipment.
No. 1900. April 1942. p. 5-7. War production board
amends order to permit increased production of certain equip-
ment--consolidation of some items permits greater latitude in
meeting farmers' requirements.
- Field shelling of corn. By F. F. Skelton and H. P. Bateman.
Agricultural engineering. v. 23, no. 4. April 1942.
p. 131-133. Labor, power, fuel requirements, and capacity
tests. Cost comparison of four methods of harvesting.
Mechanical performance. Marketing and storage of field shelled
corn. Summary: (1) Lower cost of field shelling method as
compared to present methods for areas greater than 45 acres,
results from combining picking and shelling operations, reduced
hauling costs, greater capacity of machine, and smaller power
requirement. (2) Greatest portion of harvesting losses in
fields yielding up to 66 bu per acre was caused by snapping
rolls and gathering points. (3) High moisture content of field
corn during harvest season and lack of satisfactory storage or
drying facilities at present, necessitates that field-shelled
corn be sold from field at low market grade. (4) Foreign
material and damage caused by operation of machine did not result
in reduction of market grade.
- Harvesting subterranean clover seed. By T. H. DeArmond.
Corvallis, Ore., 1942. 2p. mimeographed. Oregon. Agri-
cultural experiment station. Circular of information no. 261.
- Hop picking and drying. Electrical review. v. 130, no. 3359.
April 10, 1942. p. 461-463. Describes application of
electricity.
- New production drive. Implement and machinery review. v. 67,
no. 302. February 1, 1942. p. 874-876. Government's
big scheme to organize output, allocation, service and applica-
tion of farm equipment.
- 1941 output hits new peak. Implement & tractor. v. 57, no. 9.
April 25, 1942. p. 10, 28. Industry builds machinery
with wholesale value set at three-quarters of a million dollars.
This represents 30 per cent increase over 1940, and more than
\$100,000,000 above 1929.
- 1941 Sales break all records. Farm machinery & equipment.
No. 1900. April 1942. p. 12. Table 1--Farm equipment
and related products manufactured and sold--Value, by classes:
1941, 1940, and 1939.
- Pyrethrum harvester developed. Chemurgic Digest. v. 1, no. 8.
April 30, 1942. p. 62.

Farm machinery and equipment. (Cont'd.).

Results of a drilled corn experiment. By Lester J. Pfister.
Agricultural engineering. v.23, no.4. April 1942.
p.134. Purpose of experiment was to compare production
costs using standard method in checkrowed fields with gasoline-
powered tractor equipment and regular shovel cultivation, with
drill method.

Scoop for farm tractor lifts and carts load. Popular mechanics.
v.77, no.6. June 1942. p.48. Built for easy attach-
ment to rear of most farm tractors, one-man earth scoop and
carrier makes for fast, efficient and economical work. Under
constant control by means of hydraulic lift, scoop excavates
earth from one to twelve inches below tractor wheels, and when
full shovel is lifted clear of ground and carried away without
dragging. Load may be dumped or spread while tractor is in
motion, thus permitting continuous routine.

Self-propelled combine can be operated by one man. Popular
mechanics. v.77, no.6. June, 1942. P.5. Savings
in fuel as well as labor of one man are possible with self-
propelled combine which operates on only one engine, instead of
using two as in case of tractor-drawn implement. One man can
run new combine. With hand levers in easy reach he can adapt
machine quickly to meet all crop conditions. One lever operates
threshing and cutting mechanism, wheel raises or lowers platform
and another lever engages or disengages entire platform conveyor,
cross conveyor canvases and reel drive, threshing speed remains
constant regardless of ground speed. 12-foot swath of grain is
cut in front of unit, and since no tractor leads way standing
grain on open cut is not tramped down. Both bagger and tank
model are offered, bagger accommodating either one or two men
besides driver. Tank model is equipped with 45-bushel tank.
Larger size model, which takes 16-foot swath is available for
big acreage operators.

Speed up gardening with wheel tools. By A. A. Stone. Flower
grower. v.29, no.5. May 1942. p.232-233, 239.

Farm structures.

Portable sheep dipping tank. In Investigations of agricultural
problems. Columbia, Missouri, 1941. p.21. Missouri.
Agricultural experiment station. Bulletin no.438.

Feeding and feeding stuffs.

Isolation of unsaponifiable constituents from green plant tissue.
By P. W. Morgel, H. G. Petering and E. J. Miller. Industrial
and engineering chemistry. v.33, no.10. October 1941.
p.1298-1302. Number of important improvements have been de-
veloped in method (2) for isolating carotene from dehydrated

Feeding and feeding stuffs (Cont'd.).

alfalfa-leaf meal by barium hydroxide process. Larger scale preparations have resulted in isolation of constituents other than carotene, such as xanthophyll, sterols, and chlorophyll, as well as improvements in working up material. Presence of diatomaceous earth during barium hydroxide reaction prevents formation of large hard balls of barium sludge which are difficult to wash free of valuable constituents. All soluble barium is completely removed from concentrate by addition of small amount of magnesium sulfate during final concentration. Most of xanthophyll is removed from crude concentrate by treatment with petroleum naphtha, which leaves xanthophyll as insoluble residue. Unsaponifiable concentrate is obtained which contains 60,000 units of vitamin A per gram (as B-carotene) and which appears to contain natural stabilizer for carotene against oxidation in air. Irradiation of this concentrate with ultraviolet light activates sterols in it to vitamin D. Its lack of objectionable odor and taste should make it suitable for fortifying foods with vitamins A and D. Crystalline carotene may also be obtained from concentrates.

Fences.

Does it pay to buy galvanized steel fence posts? In Farm research in South Dakota. Fifty-fourth annual report, July 1, 1940 to June 30, 1941, South Dakota agricultural experiment station. Brookings, S.D., 1942. P.65-66.

Farm fence goes to war. Successful farming. v.40, no.5. May 1942. p.18, 59-60.

Fences, Electric

Single wire for defense. By Howard Peck. Successful farming. v.40, no.5. May 1942. p.28, 56-57. Better ways to string and energize electric fence.

Fertilizer placement.

Fertilizer placement tests with tomatoes. In Pennsylvania, Agricultural experiment station. Bulletin no. 414. State college, Penn., 1941. p.52.

Fire protection.

Fire resisting encasement of structural steelwork. By C. Roland Woods. Structural engineer. v.20, no.4. April 1942. p.45-59.

Fireplaces.

It's Outdoors for the duration! Better farms. v.2, no.24. May 15, 1942. p.10. Fireplaces.

Fireplaces (Cont'd.).

Out where the roast begins. Better homes & gardens. v.20,
no.10. June 1942. p.20-21. Outdoor barbecue fire-
places.

Flax.

Fiber flax in western Washington. By E. G. Schafer. Pullman,
Wash., 1942. 11p. Washington. Agricultural experiment
station. Popular bulletin no.166.

Flax. Fargo, N.D., 1942. folder. North Dakota. Agricultural
college. Extension service. Special circular no. A-13.

Flaxseed production in the north central states. By A. C. Dillman
and T. E. Stoa. Washington, D.C., Govt. print. off., 1942.
19p. U.S. Dept. of agriculture. Farmers' bulletin no.1747.

Floors.

Performance test of floor coverings for use in low-cost housing:
Part 4. By Percy A. Sigler and Elmer A. Koerner. Wash-
ington, D.C., 1942. 21p. National bureau of standards.
Building materials and structures. Report BMS80.

Tests of new materials and methods for farm building floors. In
Farm research in South Dakota. Fifty-fourth annual report,
July 1, 1940 to June 30, 1941, South Dakota agricultural ex-
periment station. Brookings, S.D., 1942. p.67-68.

Fruits and vegetables.

Apple juicers. In Washington. Agricultural experiment station.
Bulletin no.410. Pullman, Wash., 1941. p.10.

Connecticut vegetable industry and its outlook for 1942. Hartford,
Conn., 1942. 19p. Connecticut. Department of agriculture.
Bulletin no.77.

Deciduous fruit statistics as of January, 1942. By S. W. Shear.
Berkeley, Cal., 1942. 113p mimeographed. Ginannini
foundation of agricultural economics. Mimeographed report no.79.

Frozen apple juice. By Paul Muckley. In Ohio state horticul-
tural society. Proceedings of the seventy-fifth diamond jubilee
meeting. Wooster, Ohio, 1942. p.64-65.

Fruit pressure testers and their practical application. By Mark
H. Haller. Washington, U.S. Govt. print. off., 1941.
22p. U.S. Department of agriculture. Circular no.627.

Fruits and vegetables (Cont'd.).

Harvesting and handling apples. By D. F. Fisher. In Ohio state horticultural society. Proceedings of the seventy-fifth diamond jubilee meeting. Wooster, Ohio, 1942. p.66-87.

Marketing fruits, vegetables, and nuts: A selected and annotated bibliography. Compiled by Florence C. Boll. Washington, D.C., Farm credit administration, 1941. 258p. mimeographed. U.S. Farm credit administration. Miscellaneous report no.46.

Nutritive value of dried and dehydrated fruits and vegetables. By Donald K. Tressler. Geneva, N.Y., 1942. 44p. N.Y., Agricultural experiment station. Technical bulletin no.262.

Heating.

Practical system of units for the description of the heat exchange of man with his environment. By A. P. Gagge, A. C. Burton and H. C. Bazett. Science. v.94, no.2445. November 7, 1941. p.428-430.

Hitches.

Field gun equipment used in tractor hitch. In Pennsylvania. Agricultural experiment station. Bulletin no.414. State College, Penn., 1941. p.5-6.

Homemade tandem team hitch is practical and economical for field use. By James G. Fuller. Percheron news. v.4, no.2. April 1942. p.20-21. Discussion of hitches.

Horsepower in battle for food. By C. W. Dupstadt. Pennsylvania farmer. v.126, no.9. April 25, 1942. p.284. Discussion of hitches.

Houses.

Knockdown house can be moved and rebuilt. Popular mechanics. v.77, no.6. June 1942. p.25. Houses are prefabricated of synthetic boards manufactured from old newspapers which are processed chemically and pressed into sturdy boards.

New light on the relation of housing to health. By Rollo H. Britten. Public health. v.32, no.2. February 1942. p.193-199. American public health assoc. Table 4: Home Accidents.

Nine-ton welded steel home is trucked to site. Popular mechanics. v.77, no.6. June 1942. p.12. Ready-made insulated houses built of welded steel panels, weighing only nine tons equipped, are being trucked from factory to homesites and laid

Houses (Cont'd.).

on prepared foundation piers by tractor crane. 12-gauge sheet steel used in making houses is too light for most war purposes. Basic "apartment-house" is 11 feet wide and 27 feet, 2 inches long.

Humidity.

Physiological influence of atmospheric humidity. Heating, piping and air conditioning. v.13, no.12. December 1941. p.774-777. Second report of the ASHVE technical advisory committee on physiological reactions.

Insulation.

Fiberglas insulation in the low-temperature field. By John B. Schnoller. Refrigerating engineering. v.43, no.5. May 1942. p.280-282.

Laminated densified wood. By A. E. L. Jarvis. Electrical review. v.130, no.3357. March 27, 1942. p.395-397. Insulating properties and tooling applications.

"Nicol" -- new low temperature insulant. Modern refrigeration. v.45, no.528. March 1942. p.44. Physical properties of all-British product.

Specifications for mineral wool in low temperature installations. Refrigerating engineering. v.43, no.5. May 1942. p.287-291.

Thermal conductivity. Modern refrigeration. v.45, no.529. April 1942. p.62. Tests on some industrial materials: slag wool, glass silk.

Irrigation.

Algunas ideas sobre la conservacion de obras de riego. By Jorge L. Tanayo. Irrigacion en Mexico. v.22, no.1. Nov.-Dec. 1941. p.427-465. Some facts on the conservation of river construction.

Citrus irrigation problems. By H. J. Wilder. Pacific rural press. v.143, no.9. May 2, 1942. p.305.

Integrating the use of irrigated and grazing land in the Northern Great Plains. By Roy E. Huffman and James L. Paschal. Journal of land & public utility economics. v.18, no.1. February 1942. p.17-27.

Irrigation (Cont'd.).

- Irrigation and food production; By Peter L. Slagsvold. Land
policy review. v.5, no.5. May 1942. p.29-32.
- Irrigation benefits certain vegetables. In Pennsylvania. Agri-
cultural experiment station. Bulletin no.414. State College,
Penn., 1941. p.52-53.
- Irrigation methods on muck soils. By Donald Comin. Market
growers journal. v.70, no.10. May 15, 1942. p.192-
193, 198-199.
- Rational irrigation program saves money and labor. By F. J. Veih-
meyer and A. H. Hendrickson. Pacific rural press.
v.143, no.10. May 16, 1942. p.331.
- Suggestions on pasture irrigation. Pacific rural press. v.143,
no.9. May 2, 1942. p.312.
- What is good irrigation practice? By J. C. Johnston. Pacific
rural press. v.143, no.9. May 2, 1942. p.309.
It is good irrigation practice to keep all of soil supplied
with available moisture all of time without undue waste and
within limits which are practical under orchard conditions.

Irrigation channels.

- Irrigation structures for farm ditches. By J. E. Christianson and
N. E. Edlofson. Pacific rural press. v.143, no.9.
May 2, 1942. p.300-301.
- Lining lateral canals. By E. C. Rounds, E. L. Forte and W. R. Fry.
Reclamation era. v.32, no.4. April 1942. p.89, 90.
Precast concrete slabs used on Yuma project.

Lubrication.

- Friction and lubrication. Melbourne, 1942. 59p. Australia.
Council for scientific and industrial research. Bulletin no.145.
Theory of metallic friction and the role of shearing and plough-
ing (Pt.1); Friction of thin metallic films. (Pt.2).
- Grease prevents deterioration. By C. P. Edwards. Implement and
tractor. v.57, no.8. April 11, 1942. p.16-17, 62.

Malaria control.

- Observations on experimental malaria control drainage ditch linings.
By J. L. Rbertson, jr. and others. Public health reports.
v.57, no.13. March 27, 1942. p.451, 464. Public
Health Service, through Office of Malaria Investigations, has
conducted studies of concrete and brick ditch linings. These

Malaria control (Cont'd.).

studies were initiated on small scale, during latter part of 1930, in city of Memphis and in Shelby county, Tennessee. They were intensified from 1936 through 1938. These studies have served as important impetus to practice of ditch stabilization by malaria control engineers in United States. Chief purpose of investigations was to develop ditch linings which could be constructed at minimum cost, without sacrifice of durability. Leanest concrete mixes and thinnest slab sections permissible as well as simplicity in construction methods were among principal objectives of studies.

Milk cooling.

Improved unit cools milk more uniformly. In Pennsylvania. Agricultural experiment station. Bulletin no. 414. State College, Penn., 1941. p.10.

Milkhouses.

Milk house construction on Utah farms. Logan, Utah, 1941. 11p. Utah. Agricultural college. Extension service. W.s. 110. [Circular]

Miscellaneous.

Protection of cultural resources against the hazards of war: A preliminary handbook. Prepared by the Committee on conservation of cultural resources. National resources planning board, Washington, D.C., 1942. 46p.

Science, technology, and war. By Waldemar Kaempffert. Yale review. v.31, no.3. Spring 1942. p.492-502.

Motor fuels.

Jeanite: a motor fuel from molasses. Practically the same as petrol. By Dr. William L. Owen. South African sugar journal. v.26, no.1. January 1942. p.17, 19, 21. Process for preparing motor fuel from blackstrap molasses. It is stated that fuel is practically same as petrol and octane number is given at high figure of 81. Product can be made at 20 cents a gallon.

Sludge gas for motor fuel. Engineering news-record. v.127, no.23. December 4, 1941. p.802-803. Truck that travels 3 1/2 miles on gallon of gasoline could go 8 1/2 miles on cylinder of compressed sludge gas, according to report made to Atlanta, Ga., relating to utilization of excess digester gas. By converting all city motor equipment for operation by sludge gas annual saving of \$8,000. would be possible.

Paints and painting.

New Paints for farms and farm machinery. Implement and machinery
review. v.67, no.803. March 1, 1942. p.973.
Maximum weather protection. Black-out paint. Camouflage.
"Barnite", "Miraglo", "Arpex".

Pest control.

War on insect invaders has developed control tactics. By L. C.
Porter and G. F. Prideaux. Magazine of light. no.3.
April 25, 1942. p.38-42.

Pipes and piping.

Keeping pipes from freezing. By J. B. Stere. Electricity on
the farm. v.14, no.12. December, 1941. p.5-6.

Ploughing.

Parasitical friction increases plow draft. In Pennsylvania.
Agricultural experiment station. Bulletin no.414. State
College, Penn., 1941. p.4-5.

Plough's influence on cereal production. Implement and machinery
review. v.67, no.802. February 1, 1942. p.879.
Deep ploughing considerations. Influence of furrow width.

Plowing terraced land. By E. G. Johnson. Washington, D.C.,
1942. 6p. U.S. Department of agriculture. Leaflet no.
214.

Potatoes.

Potato diseases and their control. By T. P. Dykstra. Wash-
ington, D.C., U.S. Govt. print. off., 1941. 65p. U.S.
Department of agriculture. Farmers' bulletin no.1881.

Poultry houses, Lighting

Poultry lighting studies. In Washington. Agricultural experi-
ment station. Bulletin no.410. Pullman, Wash., 1941.
p.11.

Poultry houses and equipment.

Penn. State two-story laying house. American poultry journal.
v.73, no.6. June 1942. p.14-15, 19.

Raising and caring for the laying flock. By Frank D. Reed.
Orono, Maine, 1942. 28p. Maine. College of agriculture.
Extension service. Extension bulletin no.302.

Poultry houses and equipment (Cont'd.).

Time- and labor-saving equipment for the laying house. By D. C. Kennard and V. D. Chamberlin. Ohio. Agricultural experiment station. Bimonthly bulletin. v.27, no.216. May-June 1942. p.89-96.

Power farming.

Implications of power farming. By E. R. Morrison. Journal of the American society of farm managers and rural appraisers. v.6, no.1. April 1942. p.26-29.

Producer gas.

Producer gas for motor transport. By E. A. Allcut. Engineering journal. v.25, no.4. April 1942. p.223-230.

Production.

Objective method of sampling wheat fields to estimate production and quality of wheat. By Arnold J. King and others. Washington, D.C., Govt. print. off. 87p. U.S. Department of agriculture. Technical bulletin no.814.

Production costs.

Cost of handling hay by different methods. By F. L. Morison. Ohio. Agricultural experiment station. Bimonthly bulletin. v.27, no.215. Wooster, Ohio, 1942. p.81-82.

Pumps and pumping.

Homemade stirrup pump for fighting incendiary bombs. By Benjamin Nielsen. Popular science. v.140, no.6. June 1942. p.HW-40-HW-42.

Short course in pump engineering. By Kenneth R. Frost. Farm implement news. v.63, no.10. May 14, 1942. p.37-40. Chapter 7--Special pumps and applications.

Rainfall and runoff.

Calibration of small-fraction runoff divisors. By K. B. Sanders and A. L. Kennedy. In Fifty-third annual report, 1940. Tennessee agricultural experiment station. Knoxville, Tenn., 1941. p.12-13.

Density method for determination of soil content of runoff and soil moisture. By K. B. Sanders and A. L. Kennedy. In Fifty-third annual report, 1940. Tennessee agricultural experiment station. Knoxville, Tenn., 1941. p.11-12.

Rainfall and runoff (Cont'd.).

Measurements of the fall-velocities of water-drops and raindrops.
By J. Otis Laws. Washington, D. C., 1941. 33p.
Mimeographed. U.S. Department of agriculture. Soil Con-
servation service.

Refrigeration.

Air movement in refrigeration. By Herbert C. Hoover. Re-
frigerating engineering. v.43, no.5. May 1942.
p.283-286. In this practical discussion of finned coils
and baffle arrangements, author reviews fundamentals of air
circulation and presents such data as are available. He also
emphasizes need for standard method of testing output of
blower coils.

Lettuce precooling experiments. By J. A. Sinclair. California
cultivator. v.89, no.1. p.10.

Poly-Freezing is here. Market growers journal. v.70, no.8.
April 15, 1942. p.156-157. Polyphase process, just
developed at University of Texas, may profoundly affect our
methods of handling vegetables. Process is very rapid, simple,
low in first cost, economical in operation. Proper development
of this quick-freezing process should help vegetable grower to
avoid disaster of market gluts and make it possible to spread
income more evenly over year.

Refrigerated brine sprays for cooling dressed poultry. By Mahlon
H. Sweet and George F. Stewart. U.S. Egg & Poultry Magazine.
v.48, no.5. May 1942. p.261-265, 308-312. Experi-
ments described in paper were undertaken to discover rapid,
practical method for cooling dressed (but undrawn) poultry.

Refrigerator lockers.

Freezer lockers for meat, vegetables, and fruit. By Flora L. Carl
and Letha O. Knight. Columbia, Mo., 1942. 16p. Missouri.
College of agriculture. Agricultural extension service. Circu-
lar no.463.

Meat storage for community cold storage lockers. By M. E.
Enslinger and others. In Washington. Agricultural experi-
ment station. Bulletin no.410. Pullman, Wash., 1941.
p.28-29.

Research.

Research for victory. Domestic commerce. v.29, no.14.
April 2, 1942. p.11-12. Survey conducted by National
Association of manufacturers reveals that 1,008 firms reported
about \$116,000 per company, for research. Firms classified in
chemical industry reported greater increase in their numbers
spending more for research.

Reservoirs.

Lining a concrete reservoir. By H. J. Cook. Journal of the
New England water works association. v.56, no.1. March
1942. p.70-75.

Roofs.

Roofing: Estimating--applying--repairing. New York, N.Y., James
McCawley, c1938. 387p. Practical handbook describing
mechanics of shelter; application of roof coverings of asbestos,
asphalt, coal tar, metal, slate, tile and thatch, prepared for
roofing and sheet metal trades, and as guide for architect and
builder.

Roofs to withstand fire! Volunteer firemen. v.9, no.5.
May 1942. p.4-5.

Rubber.

About Guayule rubber. By Ann S. Kheel. Agricultural Situation.
v.26, no.5. May 1942. p.21-23.

Guayule. Northwest farm equipment journal. v.56, no.5.
May 1942. p.19.

Guayule rubber growing in California. Timberman. v.43, no.6.
April 1942. p.10-12, 42. Article discusses machines
used in cultivation.

Rubber from weed pests? By George A. Montgomery. Capper's
farmer. v.53, no.5. May 1942. p.7. Presents
facts that seem to warrant resumption and extension of investi-
gations with native plants that might be grown as rubber crops
on American farms. Farmers, at present, would not be justified
in planting any species mentioned, because no latex extracting
mills exist and there is no market for product.

Safety glass.

Make your own safety glass. American builder. v.64, no.3.
March 1942. p.91. New product is announced known as
Roxaneal, and is manufactured by Roxalin Flexible Finishes, Inc.,
Elizabeth, N.J. This new glass protector is water-white, trans-
parent liquid that prevents broken glass from flying. It is not
claimed to stop glass from fracturing, but tests have proved that
it will keep broken glass in place, thus preventing dangerous
glass splinters from flying.

Seepage.

Theory and physics of seepage flow from canals. By Pandit K. R.
Sharma. Proceedings of Punjab engineering congress.
Lahore, Kapur art printing works, 1940. p.45-62y. Paper
no.231. Losses under saturated conditions. Pressure

Seepage (Cont'd.).

observation under saturated conditions. Losses under partially saturated conditions. Pressure observations under partially saturated conditions. Description of the apparatus. Discussion of results of manometric tests of pressure pipes in partially saturated conditions. Partially saturated conditions. Pressure observations under unsaturated conditions. Losses in the saturated conditions. Physics of the seepage losses from channels. Conclusions.

Silos.

Size of a silo. New Zealand farmer weekly. v.63, no.2. March 26, 1942. p.25. Gives size and requirements for round silos.

Silt.

Factors in control of reservoir silting. By Carl B. Brown. Journal of the American water works. assoc. v.33, no.6. June 1941. p.1022-1040.

Soil-moisture.

Calibrated soil probe for measuring field soil moisture. By R. B. Allyn. Soil science. v.53, no.4. April 1942. p.273-285.

Soil moisture tensiometer materials and construction. By L. A. Richards. Soil science. v.53, no.4. April 1942. p.241-248.

Solar heaters.

Harnessing the sun. By John A. Sibley. Scientific American. v.166, no.6. June 1942. p.284-286. Research on the practical problem of power and heat from the sun: A progress report from M. I. T.

Sprays and spraying.

Meeting the spray material shortage. By Neely Turner and James G. Horsfall. New Haven, Conn., 1942. p.171-179. Connecticut. Agricultural experiment station. Bulletin no.455.

Plans and instructions for building a tapered boom type field crop duster. By F. E. Price. Corvallis, Ore., 1942. 6p. mimeographed. Oregon. Agricultural experiment station. Circular of information no.262.

Sprays and spraying (Cont'd.).

Spray residue removal from apples and pears. By John C. Snyder.
Pullman, Wash., 1941. 7p. Washington. Agricultural
extension service. Bulletin no.272.

Storage of farm produce.

Bag shortage creates grain storage demand. American lumberman.
no.3227. April 18, 1942. p.20-21.

History of the early apple storage. By Donald Conin. In Ohio
state horticultural society. Proceedings of the seventy-fifth
diamond jubilee meeting. Wooster, Ohio, 1942. p.151-153.

New wagon box fine for chopped forage. In What's new in farm
science. Part 1, annual report of the director. Madison,
Wis., 1941. p.55-56. Wisconsin. Agricultural experiment
station. Bulletin no.453.

1,000 bushel expansible grain bin. Mississippi Valley lumberman.
v.73, no.20. May 15, 1942. p.12. Structure described
is economical to build and can be expanded to any desired
capacity or converted to other uses. Basic unit may be pre-
fabricated in lumber yard and hauled to farm as whole or demounted.

Suggestions for retailers to help solve grain storage problem.
Mississippi Valley lumberman. v.73, no.19. May 8, 1942.
p.11-13.

Sugar cane.

Sugar cane fibre. By G. C. Dymond. International sugar journal.
v.43, no.515. November 1941. p.342.

Swine houses and equipment.

Practical ideas from a modern piggery. New Zealand farmer weekly.
v.63, no.2. March 26, 1942. p.18-19.

Termites.

Our termite problem. By Edward C. Stearns. Appraisal Journal.
v.10, no.2. April 1942. p.153-155.

Tires.

Liquid ballast for tractor tires. Implement and tractor.
v.57, no.10. May 9, 1942. p.26, 28.

Missouri farmers and the rubber shortage. By H. E. Klinefelter.
Missouri farmer. v.34, no.8. April 15, 1942. p.3,7.

Tires (Cont'd.).

Wooden tires make fast test run. The Dakota-Farmer. v.62,
no.9. May 9, 1942. p.179. Inventor said tires would
be of value only on front wheels and would not advise their use
on all four wheels. Wooden tires would not give needed traction
on rear wheels. Riders reported that the wooden tires did not
produce jolting which might be expected and show little differ-
ence from rubber on a smooth road at 35 miles per hour.

Tractors.

Efficient use of farm tractors. By H. Cecil. Country life.
v.91, no.2355. March 6, 1942. p.464.
Tractors in wartime. By Fred Hawthorn. Farm journal and
farmer's wife. v.66, no.6. June 1942. p.20,22,53.

Ventilation.

Ventilation of animal shelters. By J. C. Wooley. Columbia,
Mo., 1942. 6p. Missouri. Agricultural experiment sta-
tion. Circular no.219.

Walls.

Retaining walls. By R. R. Minikin. Engineering. v.153,
no.3967. January 23, 1942. p.61-63.
What's new in dry walls. By Henry H. Saylor. Better homes
and gardens. v.20, no.10. June 1942. p.34-35.

Water rights.

Selected problems in the law of water rights in the west. By
Wells A. Hutchins. Washington, D.C., 1942. 513p.
U.S. Department of agriculture. Miscellaneous publication
no.418.

Water supply.

Early history of water-supply. By C. E. N. Bronehead.
Geographical Journal. v.99, no.3. March 1942.
p.142-151.

Save your soil. Stock-water dugouts an aid to range management in
a conservation program for your farm or ranch. Washington,
D.C., 1942. Folder. U.S. Soil conservation service.
Conservation folder no.9.

Surface water supply of the United States, 1940. Part 7, Lower
Mississippi river basin. By Glenn L. Parker and others.
Washington, D.C., 1941. 349p. processed. U.S. Geological
survey. Water-supply paper no.897.

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